

REMARKS/ARGUMENTS

Re-examination and favorable reconsideration in light of the above amendments and the following comments are respectfully requested.

Claims 1 - 25 are pending in the application. Currently, claims 1 - 15 stand rejected and claims 16 - 25 have been withdrawn from consideration.

By the present amendment, claims 1 - 25 have been cancelled without prejudice; and new claims 26 - 44 have been added to the application.

In the office action mailed October 9, 2007, claims 1 - 15 were rejected under 35 U.S.C. 112, second paragraph; claims 1 - 4, 6, 8 - 10 and 15 were rejected under 35 U.S.C. 102(e) as being anticipated by EP Patent Publication No. 1,327,698 to Movchan et al.; claims 7, 11 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Movchan et al.; claims 1 - 5, 8, 9, 12, 13, and 15 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,624,721 to Strangman; and claims 10, 11 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Strangman.

The foregoing rejections have been traversed by the instant response.

Applicant hereby confirms the election of the invention of group I, claims 1 - 15, for the purposes of examination. The traversal of the restriction requirement is hereby withdrawn. .

The rejection of claims 1 - 15 on indefiniteness grounds is hereby withdrawn.

The rejections based on Movchan et al. and Strangman are now moot in view of new claims 26 - 44.

New claim 26 is directed to a method for forming a thermal barrier coating on a surface of a component. The method comprises the steps of evaporating a source of a thermal barrier coating matrix material and a source of a fugitive material, co-depositing said thermal barrier coating matrix material and said fugitive material on said component surface so as to form a layer of said co-deposited thermal barrier coating matrix material and said fugitive material, forming a porous network in said layer by heating said layer of said co-deposited thermal barrier coating matrix material and said fugitive material at a temperature and for a duration sufficient to liberate a portion of said fugitive material, and depositing at least one layer of a thermal barrier coating ceramic material only onto said layer containing said porous network subsequent to said porous network forming step. Neither Movchan et al. nor Strangman teach or suggest the step of depositing at least one layer of a thermal barrier coating ceramic material only subsequent to said porous network forming step. While Strangman et al. has a subsequent layer forming step, Strangman et al. deposit a noble metal to increase the reflectivity of the pores.

With respect to independent claim 35, this claim is directed to a method for forming a thermal barrier coating on a surface of a component. The method comprises the steps of: evaporating a source of a thermal barrier coating matrix material and a source of a fugitive material; co-depositing said thermal barrier coating matrix material and said fugitive material on said component surface so as to form a layer of said co-deposited thermal barrier coating matrix material and said fugitive material; said co-depositing step comprising altering a rate at which said thermal barrier coating matrix material and said fugitive material are

deposited to form said layer with different levels of fugitive material in said thermal barrier coating matrix material; and forming a gradated porous network in said layer by heating said layer of said co-deposited thermal barrier coating matrix material and said fugitive material at a temperature and for a duration sufficient to liberate a portion of said fugitive material. Neither Movchan et al. nor Strangman teaches or suggests altering a rate at which said thermal barrier coating matrix material and said fugitive material are deposited so as to form different levels of fugitive material in said thermal barrier coating matrix material and thereafter forming a gradated porous network in the layer.

Claims 27 - 34 and 36 - 44 are allowable for the same reasons as their parent claims as well as on their own accord. In particular, there is nothing in Movchan et al. or Strangman et al. which teaches or suggests the subject matter of claims 32 and 41 (the molybdenum disk) and claims 34 and 43 (the at least 90% of the mass of the fugitive material).

For the foregoing reasons, the instant application is believed to be in condition for allowance. Such allowance is respectfully solicited.

Should the Examiner believe an additional amendment is needed to place the case in condition for allowance, he is hereby invited to contact Applicants' attorney at the telephone number listed below.

No fee is believed to be due as a result of this response. Should the Commissioner determine that an additional fee is due, he is hereby authorized to charge said fee to Deposit Account No. 21-0279.

Respectfully submitted,

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Date: January 8, 2008

I, Karen M. Gill, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on January 8, 2008.

